

REMARKS

This application has been carefully reviewed in light of the Office Action dated June 15, 2006. Claims 1 to 28 are pending in the application, of which Claims 1, 6, 11 and 23 are independent. Reconsideration and further examination are respectfully requested.

Claims 1 to 18 and 25 to 27 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 5,881,213 (Shaw) in view of U.S. Patent No. 6,070,000 (Mori), and in further view of U.S. Patent No. 5,995,722 (Kishida). Claims 19 to 22 were rejected under 35 U.S.C. § 103(a) over Shaw in view of Mori, in further view of Kishida, and in further view of U.S. Patent No. 5,566,278 (Patel). Claims 23 and 24 were rejected under 35 U.S.C. § 103(a) over Shaw in view of Mori, in further view of U.S. Patent No. 6,552,813 (Yacoub), and in further view of Patel. Claim 28 was rejected under 35 U.S.C. § 103(a) over Shaw in view of Mori, in further view of Yacoub, in further view of Patel, and in further view of Kishida. Reconsideration and withdrawal of these rejections are respectfully requested.

The present invention concerns error recovery during print job spooling operations. A print control apparatus generates device independent data for a print spooler. When the print spooler despools the independent data to a first printer, the independent data is retained. If a print processing error occurs on the first printer, the saved independent data may then be despoiled to another printer using the other printer's driver without having to regenerate the independent data.

Turning now to the claims, Claim 1 is directed to a print control apparatus which can communicate with a plurality of printing apparatuses via a predetermined

communication medium. The print control apparatus comprises a first converting means for functioning as a common printer driver for receiving from a graphic engine drawing information generated by the graphic engine from output data generated by an arbitrary application and for converting the received drawing information into independent data which does not depend on each of the plurality of printing apparatuses, the converted independent data being stored in a spooler; despooling means for despooling the independent data stored in the spooler such that one of a plurality of printer drivers may generate print control information specific to a corresponding one of the plurality of printing apparatuses based on contents of the despoiled independent data, and for retaining the independent data in the spooler even after despooling the independent data; discriminating means for discriminating an occurrence of a print processing error by monitoring a print processing state of the one printing apparatus which corresponds to the one printer driver; and control means for selecting another one of the plurality of printer drivers corresponding to another one of the plurality of printing apparatuses when it is determined by said discriminating means that the print processing error has occurred in the one printing apparatus, and for controlling said despooling means to despool the independent data retained in the spooler so as to generate print control information by the other printer driver.

In contrast, Shaw discloses decoupling the process of generating and spooling an enhanced metafile format (EMF) file, which is a device-independent format file, and the process of despooling the spooled EMF file. The Examiner contends that Shaw discloses the despooling means of Claim 1 at column 4, lines 18-27 and at column 3, lines 11-25. Those portions of Shaw, however, disclose that an EMF file, which is a

device independent format file, is spooled for a workstation. Since the device independent format file is spooled, it is possible to provide the device independent format file to a first device which becomes available when the workstation is connected to a network and to a second device which becomes available when the workstation it is disconnected from the network. Namely, Shaw merely teaches that the device independent format file can be used to delay despooling until an appropriate device becomes available.

However, the despooling means of Claim 1 retains the independent data in the spooler even after despooling the independent data. Shaw is entirely silent as to this feature as Shaw merely discloses that the spooled device independent format file is retained until it is despoiled. Therefore, Shaw fails to teach retaining the independent data in the spooler even after despooling the independent data.

Furthermore, Shaw is silent as to the feature that a control means selects another one of the plurality of printer drivers corresponding to another one of the plurality of printing apparatuses. What is disclosed in Shaw is that the user selects one printer for output from among a plurality of printers. Shaw accordingly fails to disclose despooling the independent data for one printer driver and then despooling the independent data for another printer driver that was selected at another time. Therefore, Shaw cannot possibly disclose despooling the independent data for one printer driver, selecting another of the plurality of printers, and then despooling the independent data for the selected printer.

Mori discloses a system including a plurality of printers connected in series. One of the printers receives print data, and prints the data if printing is possible and transfers the print data to a downstream printer if printing is impossible. Therefore, what is taught in Mori is that each printer determines whether the printing is to be executed by

the printer or to be transferred to another printer. Accordingly, Mori is silent as to selection of a suitable printer driver for output in the host computer.

Furthermore, since device-dependent data is transferred to the printers in sequence in Mori, it is required that all the printers support printer drivers compatible with each other. Mori does not even require spooling of the device independent data. Therefore, Mori is silent as to both selecting another one of the plurality of printer drivers corresponding to another one of the plurality of printing apparatuses when it is determined that the print processing error has occurred in the one printing apparatus and retaining the independent data in the spooler even after despooling the independent data.

Finally, Kishida shows a system similar to that disclosed in Mori. Kishida has an additional feature that a first printer develops print data into image data suitable for a second printer. In other words, processing for the second printer is executed in the first printer not in the host computer. Kishida does teach data conversion, but fails to disclose or suggest controlling data output to different printers by switching the printer driver. Additionally, Applicant has reviewed Kishida and finds nothing that cures the previously described deficiencies of both Shaw and Mori.

Therefore, even if Shaw, Mori and Kishida were combined, which Applicant does not admit is permissible, such a combination would fail to disclose or suggest all of the features of Claim 1. In light of this deficiency of Shaw, Mori and Kishida, Applicant submits that independent Claim 1 is now in condition for allowance and respectfully requests same.

Independent Claims 6 and 11 are directed to a method and a memory medium, respectively, substantially in accordance with the apparatus of Claim 1.

Accordingly, Applicant submits that Claims 6 and 11 are also now in condition for allowance and respectfully requests same.

Turning now to Claim 23, Claim 23 is directed to a computer readable memory medium to store a computer program which enables an arbitrary printing apparatus to execute a print. The program comprises the steps of converting device-independent data formed by a print control means into print data for printing by a first printing apparatus, wherein the device-independent data does not depend on a particular printing apparatus; transmitting the print data to the first printing apparatus; monitoring a state of the transmitted print data for print completion; when the print is unsuccessfully completed, changing to a second printing apparatus on an output destination side on the basis of the device-independent data, converting the print data into print data specific to the second printing apparatus, and executing the print; when a print instruction of the user, which the first printing apparatus is capable of executing, cannot be executed as it is by the second printing apparatus, notifying the user of such a fact; and allowing the user to select whether or not to print using the second printing apparatus, and when the user elects not to print using the second printing apparatus, allowing the first printing apparatus to re-execute the print.

As discussed above, Shaw discloses decoupling the process of generating and spooling an enhanced metafile format (EMF) file, which is a device-independent format file, and the process of despooling the spooled EMF file. However, nothing in Shaw discloses or suggests converting device-independent data formed by a print control means into print data for printing by a first printing apparatus and then changing to a second printing apparatus on an output destination side on the basis of the device-

independent data and converting the print data into print data specific to the second printing apparatus in response to a determination of unsuccessful printing by the first printing apparatus. Furthermore, and as also discussed above, since device-dependent data is transferred to the printers in sequence in Mori, it is required that all the printers of Mori support printer drivers compatible with each other. Therefore, no combination of Shaw and Mori can possibly disclose or suggest converting device-independent data formed by a print control means into print data for printing by a first printing apparatus, wherein the device-independent data does not depend on a particular printing apparatus, transmitting the print data to the first printing apparatus, monitoring a state of the transmitted print data for print completion; when the print is unsuccessfully completed, changing to a second printing apparatus on an output destination side on the basis of the device-independent data and converting the print data into print data specific to the second printing apparatus, as featured in Claim 23.

Furthermore, nothing in either Yacoub or Patel is found to cure such a deficiency. Therefore, Applicant submits that Shaw, Mori, Yacoub and Patel, either alone or in combination, fail to disclose or suggest all of the features of Claim 23. Accordingly, Applicant submits that Claim 23 is now in condition for allowance and respectfully requests same.

The other pending claims in this application are each dependent from the independent claims discussed above and are therefore believed allowable for at least the same reasons. However, as each dependent claim is also deemed to define an additional aspect of the invention, individual consideration of each dependent claim on its own merits is respectfully requested.

In view of the foregoing remarks, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Applicant's undersigned attorney may be reached in our Costa Mesa, CA office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

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